Hake MSE - DRAFT objectives and performance metrics from JMC call in Dec 2018

JMC/MSEWG meeting
May 2019

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Manage the Pacific hake resource in a precautionary and sustainable manner

Performance metric Goal Objective Spawning biomass is above 10 Percent of years (out of 30) percent of unfished biomass that coastwide spawning 1. Minimize risk of overfishing and closing the fishery in 95 percent of the years biomass is above 10 percent over a 30 year period of unfished biomass 2. Maintain biomass above a Spawning biomass is above 40 Percent of years (out of 30) percent of unfished biomass that coastwide spawning threshold that triggers a in 75 percent of the years biomass is above 40 percent reduction in harvest rate a of unfished biomass high percentage of the time over a 30 year period 3. If biomass drops below a If spawning biomass drops Percent of instances that below 40 percent of unfished coastwide spawning biomass reduction in harvest rate, biomass, the probability that drops below 40 percent of return biomass to above the it exceeds the threshold unfished biomass and threshold within 3 years with within 3 years is greater than recovers wtihin 3 years high probability 90 percent Fishery is open in both CA and Percent of years that the US in 95 percent of the years fisheries in the US and CA are Alt 3. Avoid closing the fishery over a 30 year period both open

Both parties can receive their intended benefits under the treaty

Goal

4. Each country has the opportunity to attain their allocation of the TAC as specified in the treaty

Objective

A. The exploitable (age 2+) biomass in Canadian waters during the fishing season is greater than allocated TAC > 90 percent of years over a 30 year period

B. The exploitable (age 2+) biomass in US during the fishing season is greater than the US allocated TAC > 90 percent of years over a 30 year period

The spawning biomass is greater than a target biomass (1.2*B40) with probability 0.5

Performance metric

Percent of years (out of 30) that Canadian TAC exceeds exploitable biomass in Canada

Percent of years (out of 30) that US TAC exceeds exploitable biomass in US

Percent of years that spawning biomass exceeds target biomass (1.2*B40)

Alt 4. Achieve a spawning biomass target so both parties can obtain benefits

Yield Objectives

Goal Objective Performance metric Given 1-3 are satisfied, year to year changes in 5. Maintain low catch Average annual variability catch should average variability in catch less than 15 percent A. Given 1-5 are satisfied, Average annual catch over achieve maximum first 10 years of a 30 year coastwide catch in shortperiod term 6. Maximize catch B. Given 1-5 are satisfied, Average annual catch over achieve maximum last 10 years of a 30 year coastwide catch in longperiod term

What do draft metrics look like in draft simulations?

